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EXAMINER

LEE, PHILIP C

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/776,677	Applicant(s) OLIVER ET AL.	
	Examiner PHILIP C. LEE	Art Unit 2453	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-11,13-17,19-21 and 23-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-11,13-17,19-21 and 23-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. This action is responsive to the amendment filed on November 17, 2010.
2. Claims 1, 3-11, 13-17, 19-21 and 23-35 are presented for examination and claims 2, 12, 18, 22 and 36 are canceled.
3. The text of those sections of Title 35, U.S. code not included in this office action can be found in a prior office action.

Claim Rejections - 35 USC § 103

4. Claims 1, 3, 5, 7-10, 13-17, 19, 28, 30-31 and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirsch, US Patent 7,206,814 (hereinafter Kirsch) in view of Wang, US Patent Application Publication 2008/0040439 (hereinafter Wang).
5. As per claims 1 and 35, Kirsch teaches the invention substantially as claimed, comprising: maintaining a reputation table in memory (i.e., list of information regarding the actual senders), the reputation table including information regarding a plurality of address-domain pairs(i.e., actual senders are identified by IP and domain pair), each of the plurality of address-domain pairs indicating an IP address and an associated domain of a previously received message (col. 3, lines 7-13; col. 9, lines 2—31; col. 11, lines 24-30; col. 16, lines 27-32), the information regarding each of the plurality of address-

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domain pairs including one or more classification variables (i.e., scores are ratio of classification variables) (col. 11, lines 24-60);

receiving the message transmitted over the network (col. 4, line 66-col. 5, line 12); and

executing instructions stored in a non-transitory computer readable storage medium to:

determine an associated domain from which the received message is purported to be sent (col. 4, line 66-col. 5, line 12),

identify that the determined domain appears on a whitelist (col. 4, line 66-col. 5, line 12),

determine an IP address corresponding to a device from which the received message was relayed (col. 7, lines 35-37),

associate the determined domain with the IP address to create an address-domain pair for the received message(col. 6, lines 10-40);

classify the received message based on a score assigned to the address-domain pair, the score comprising a ratio (col. 12, lines 12-13) of a first classification variable of the address-domain pair to a second classification variable of the address-domain pair as indicated by the reputation table (col. 11, lines 24-60), and

override the whitelist based on the score assigned to the address-domain pair, wherein the received message is classified as spam even though the domain of the received message appears on the whitelist (col. 19, lines 7-14).

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6. Kirsch does not teach variable decaying with time. Wang teaches the one or more classification variables decaying with time ([0046], [0047] and claims 5 and 22).

7. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch and Wang because Wang's teaching of variables decaying with time would increase the security of their system by allowing their system to determine whether to accept or reject messages on the basis of the classification of the sender.

8. As per claim 3, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teach classifying the received message is further based on classification variables associated with another address-domain pair (i.e., classification based on range of IP combined with certain domain name), the other address- domain pair having a related IP address or related domain (col. 2, lines 58-64; col. 6, line 59-col. 7, line 4).

9. As per claim 5, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teach wherein a plurality of IP addresses is associated with the domain (col. 2, lines 63-64).

10. As per claim 7, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teaches wherein the IP address is a boundary IP address (col. 7, line 30).

11. As per claim 8, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teach wherein the IP address is preconfigured (col. 4, line 66-col. 5, line 6).

12. As per claim 9, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Although Kirsch teaches wherein the IP address is preconfigured (col. 4, line 66-col. 5, line 6), however, Kirsch and Wang do not specifically teaches including wherein the IP address is preconfigured to be one hop from a gateway IP address. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to include IP address preconfigured to be one hop or any hop from a gateway IP address because by doing so it would increase the user control by allowing configuration according to the user's design choice.

13. As per claim 10, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teach wherein the IP address is learned (col. 1, lines 24-25) (learned from the header).

14. As per claim 13, Kirsch and Wang teach the invention substantially as claimed in claim 10 above. Kirsch further teach wherein the IP address is a boundary IP address (col. 7, line 30) and wherein the boundary IP address is learned by detecting a pattern in a certain number of previously received messages (col. 7, lines 20-45).

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15. As per claim 14, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teach wherein determining the domain from which the received message is purported to be sent includes identifying the stated sender domain associated with the received message (col. 7, lines 55-64).

16. As per claim 15, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teaches wherein the domain is a domain associated with a boundary IP address (col. 7, lines 30, 49-54).

17. As per claim 16, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teach wherein classifying the received message is further based on consulting a white list (col. 8, lines 31-38).

18. As per claim 17, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teach wherein classifying the received message is further based on previous classifications made to the address-domain pair (col. 12, lines 1-30).

19. As per claim 19, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teach determining a spam ratio (col. 12, lines 12-14).

20. As per claim 28, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teaches providing the classification of the received

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message based on the address-domain pair as input to another classifier (col. 8, lines 17-62).

21. As per claim 30, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teach wherein classifying the received message is further based on a score assigned to the IP address (col. 12, lines 24-30).

22. As per claim 31, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch further teach wherein classifying the received message is further based on a score assigned to the domain (col. 12, lines 24-30).

23. As per claim 33, Kirsch and Wang teach the invention substantially as claimed in claim 30 above. Kirsch further teach comprising determining a score assigned to the IP address (Kirsch, col. 12, lines 1-30).

24. As per claim 34, Kirsch and Wang teach the invention substantially as claimed in claim 31 above. Kirsch further teach comprising determining a score assigned to the domain (Kirsch, col. 12, lines 1-30).

25. Claims 4 and 32 rejected under 35 U.S.C. 103(a) as being unpatentable over Kirsch and Wang as applied to claim 1 above, and further in view of Lalonde et al, US Patent Application Publication 2004/0068542 (hereinafter Lalonde).

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26. As per claim 4, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch and Wang do not the other message being associated with IP addresses other than the IP address of the message. Lalonde teaches wherein classifying the received message is further based on classifications of other messages associated with the domain of the received message (i.e., checking the blacklist) ([0042]), the other message further being associated with IP addresses other than the IP address of the received message ([0039]).

27. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch, Wang and Lalonde because Lalonde's teaching of further classification of the message would increase the security of Kirsch's and Wang's systems by further indentifying associated information regarding a message in order to determine and to filter unwanted message.

28. As per claim 32, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Although Kirsch teaches classifying the message based on a score assigned to the domain (col. 12, lines 24-30), however, Kirsch and Wang do not determining the received message was forged. Lalonde teaches wherein classifying includes classifying the message based on the domain and determining that the received message was forged ([0038]).

29. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch, Wang and Lalonde because

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Lalonde's teaching of further classification of the message would increase the security of Kirsch's and Wang's systems by further indentifying associated information regarding a message in order to determine and to filter unwanted message.

30. Claims 6, 11, 20-21 and 23-27 rejected under 35 U.S.C. 103(a) as being unpatentable over Kirsch and Wang as applied to claim 1 above, and further in view of Murray et al, U.S. Patent 7,366761 (hereinafter Murray).

31. As per claim 6, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch and Wang do not teach the IP address is associated with a plurality of domains. Murray teaches wherein the IP address is associated with plurality of domains (col. 7, line 65-col. 8, line 4).

32. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Lalonde, Kirsch, Wang and Murray because Murray's teaching of the IP address is associated with plurality of domains would increase the effectiveness of their system by allowing identification of the IP address is associated with the domain in order to filter unwanted e-mails based on sender information.

33. As per claim 11, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch and Wang do not teach including the IP address is adaptively

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determined. Murray teaches wherein the IP address is adaptively determined (col.3, lines 25-27).

34. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch, Wang and Murray because Murray's teaching of the IP address is adaptively determined would increase the effectiveness of their system by allowing determination of the IP address in order to filter unwanted e-mails based on sender information.

35. As per claim 20, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch and Wang do not specifically teach a spam rate. Murray teaches determining a spam rate (col. 10, lines 53-65).

36. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch, Wang and Murray because Murray's teaching of determining a spam rate would increase the effectiveness of their system by allowing identification of unwanted e-mails based on spam rate.

37. As per claim 21, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch and Wang do not specifically teach a spam rate. Murray teaches determining an estimated instantaneous spam rate (col. 10, lines 53-65; col. 11, lines 24-27).

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38. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch, Wang and Murray because Murray's teaching of determining a spam rate would increase the effectiveness of their system by allowing identification of unwanted e-mails based on spam rate.

39. As per claim 23, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch and Wang do not teach giving a classification weight relative to another classification. Murray teaches wherein classifying the received message includes giving a classification variable greater weight relative to another classification variable (col. 9, lines 20-31).

40. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch, Wang and Murray because Murray's teaching of giving a classification greater weight relative to another classification would increase the effectiveness of their system by allowing unwanted e-mails to be accurately identified based on sender's reputation.

41. As per claim 24, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch and Wang do not teach giving a classification weight relative to a computer classification. Murray teaches wherein classifying the received message includes giving a classification variable associated with user greater weight relative to a classification variable associated with computer classification (col. 8, lines 44-50; col. 9, lines 20-31).

42. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch, Wang and Murray because Murray's teaching of giving a classification greater weight relative to a computer classification would increase the effectiveness of their system by allowing unwanted e-mails to be accurately identified based on complied sender's reputation.

43. As per claim 25, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch and Wang do not teach giving weight of a good classification. Murray teaches wherein classifying the received message includes giving an indeterminate classification a fraction of the weight of a good classification (col. 9, lines 20-31).

44. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch, Wang and Murray because Murray's teaching of giving weight to a good classification would increase the effectiveness of their system by allowing unwanted e-mails to be accurately identified based on sender's good reputation.

45. As per claims 26 and 27, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Although Kirsch teaches the reputation table (col. 3, lines 7-13; col. 9, lines 20-31), however, Kirsch and Wang do not specifically teach the table indexed by IP address and domain. Murray teaches wherein the table is indexed by IP

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address and domain wherein each cell includes information about previous classifications (col. 9, lines 32-40).

46. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch, Wang and Murray because Murray's teaching of consulting a table of IP address and domain would increase the effectiveness of their system by allowing unwanted e-mails to be accurately identified based on sender's information.

47. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kirsch and Wang as applied to claim 1 above, and further in view of Appleman, U.S. Patent Application Publication 2005/0076240 (hereinafter Appleman).

48. As per claim 29, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch and Wang do not specifically teach a Bayesian classifier. Appleman teach wherein the other classifier is a Bayesian classifier ([0058]).

49. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch, Wang and Appleman because Appleman's teaching of providing the IP address and domain classification as input to a Bayesian classifier would increase the effectiveness of their system by allowing unwanted e-mails to be accurately identified based on sender's information.

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50. Applicant's arguments filed on 11/17/10 with respect to claims 1, 3-11, 13-17, 19-21 and 23-35 have been considered but they are not persuasive.

51. In the remarks, applicant argued that:

(1) The prior arts of record fail to teach overriding the whitelist based on the score assigned to the address-domain pair, wherein the message is classified as spam even though the domain of the message appears on the whitelist.

52. In response to point (1), applicant's argument has been considered and addressed to in the office action mailed 8/17/10. Specifically, Kirsch teaches message with information such as domain name in a whitelist (i.e. the sender has been whitelisted) is normally passed to the recipient (col. 5, lines 13-16). Kirsch further teach message of sender in the whitelist (message in the Inbox) can be changed to spam based on the calculated reputation of the sender from IP address and domain pair (col. 19, lines 7-14). This means changing to spam counteracts the normal operation of the whitelist (i.e., overriding the whitelist based on score assigned to the address-domain pair)

53. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip C Lee whose telephone number is (571)272-3967. The examiner can normally be reached on 8 AM TO 5:30 PM Monday to Thursday and every other Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Krista Zele can be reached on (571) 272-7288. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Philip C Lee/

Primary Examiner, Art Unit 2453

